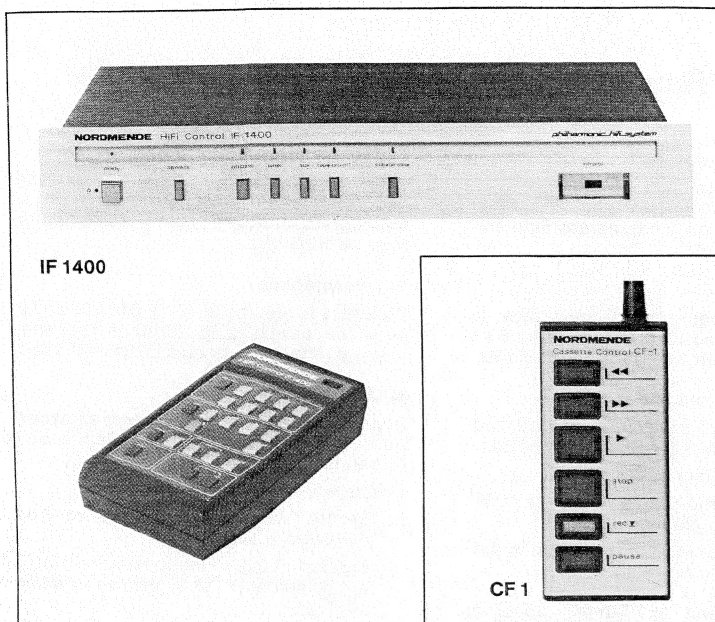


NORDMENDE

Zentralkundendienst

Service-Information

HiFi Control IF 1400 0.196 H
IF 1400 1.100 H
Cassette Control CF-1 0.179 H



Technische Daten

Fernbedienung IF 1400

Spannungsversorgung:
220 V ~, 50 Hz

Bestückung:
20 Transistoren
2 FET's
18 IC's
64 Dioden
1 Fotodiode
2 Opto-Koppler
6 LED's

Lautstärkeregelbereich:
> 35 dB

Klirrfaktor:
< 0,025 %

Übersprechdämpfung:
> 60 dB

Abmessungen:
Breite: 440 mm
Höhe: 76 mm
Tiefe: 245 mm

Infrarotgeber

Spannungsversorgung:
6 Mignonzellen je 1,5 V R 20

Bestückung:
3 Transistoren
12 Dioden
1 IC
4 LED's

Abmessungen:
Breite: 80 mm,
Höhe: 38 mm,
Tiefe: 155 mm

Fernbedienung CF-1 (nur für CD 1400)

Kabellänge:
5 m

Funktionen:
Start, Aufnahme, Stop, Vorlauf,
Rücklauf, Pause

Technical Data

Remote control IF 1400

Power supply:
220 V ~, 50 Hz

Components:
20 Transistors
2 FET's
18 IC's
64 Diodes
1 Photodiode
2 Photocoupler
6 LED's

Volume control range:
> 35 dB

Distortion factor:
< 0,025 %

Cross-talk attenuation:
> 60 dB

Dimensions:
Width: 440 mm
Height: 76 mm
Depth: 245 mm

Infra-red generator

Power supply:
6 Mignon cells each 1,5 V R 20

Components:
3 Transistors
12 Diodes
1 IC
4 LED's

Dimensions:
Width: 80 mm,
Height: 38 mm,
Depth: 155 mm

Remote control CF-1 (for CD 1400 only)

Cable length:
5 m

Functions:
Start, Record, Stop, Fast-forward,
Fast-rewind, Pause

Dati tecnici

Telecomando IF 1400

Alimentazione:
220 V ~, 50 Hz

Componenti:
20 Transistor
2 FET
18 Circuiti integrati
64 Diodi
1 Fotodiodo
2 Fotoresistenze
6 LED

Campo di regolazione volume:
> 35 dB

Fattore di distorsione:
< 0,025 %

Attenuazione diafonia:
> 60 dB

Dimensioni:
Larghezza: 440 mm
Altezza: 76 mm
Profondità: 245 mm

Trasmittitore ad infrarossi

Alimentazione:
6 Pile Mignon 1,5 V R 20

Componenti:
3 Transistor
12 Diodi
1 Circuito integrato
4 LED

Dimensioni:
Larghezza: 80 mm,
Altezza: 38 mm,
Profondità: 155 mm

Telecomando CF-1 (solo CD 1400)

Lunghezza del cavo:
5 m

Funzioni:
Avviamenti, registrazione, stop,
avanzamento rapido, ritorno rapido,
pausa

Diese Angaben und Hinweise sind ausschließlich für den Service des Fachhändlers bestimmt · Änderungen vorbehalten

These instructions are for service dealers only · Subject to modification

Questi dati ed istruzioni sono destinati esclusivamente al servizio assistenza clienti · Con riserva di modifiche

Abgleichanweisung

1. Infrarotgeber

Frequenzzähler über 100 kΩ und Tastteiler 10 : 1 an IC Pin 18 anschließen, eine Taste auf dem Geber drücken, L 1 auf 62,5 kHz abgleichen.

2. Fernbedienungseinheit

Frequenzzähler über 100 kΩ und Tastteiler 10 : 1 an IC 207 Pin 3 (TP 1) anschließen, Spule L 201 auf 62,5 kHz abgleichen.

3. Ausgangspegel (laut und leise)

Vor der Einstellung das Gerät aus und wieder einschalten, Taste „Operate“ drücken.

- Multimeter an TP 2 anschließen.
- „Volume-Clear“-Taste auf „Aus“ schalten (Anzeige erlischt).
- Regler R 228 so einstellen, daß am Meßgerät — 7,2 V stehen (Einschaltlautstärke).
- Gerät auf „Tuner“ schalten, 1 kHz 0 dB (700 mV) Signal in die Tuner-Eingangsbuchse einspeisen, Multimeter an die Ausgangsbuchse zum Verstärker anschließen. Die Regler R 247 (LK) und R 248 (RK) so einstellen, daß die Ausgangspegel an den Buchsen dem Regelbereich der Opto-Koppler PC 201 und PC 202 entspricht.

Opto-Koppler mit Farbcode:

Rot = — 24 dB ± 1 dB
Grün = — 21,5 dB ± 1 dB
Blau = — 20 dB ± 1 dB

Hinweis:

Bei Austausch der Opto-Koppler ist unbedingt auf gleiche Farbcodierung zu achten.

- Bei gedrückter „Volume clear“ Taste soll der Ausgangspegel — 3 ± 2 dB betragen.
- In Stellung „Stand-by“ soll der Ausgangspegel weniger als — 35 dB sein.

Alignment Procedure

1. Infra-red generator

Connect the frequency counter to pin 18 of the IC over a 100 kΩ resistor and 10 : 1 probe, press one button on the generator and adjust L 1 for 62,5 kHz.

2. Remote control

Connect the frequency counter over a 100 kΩ resistor and 10 : 1 probe to pin 3 of IC 207 (TP 1). Adjust coil L 201 for 62,5 kHz.

3. Output level (loud and quiet)

Before adjustment switch the unit off and then on again, press the „Operate“ button.

- Connect a multimeter to TP 2.
- Set the „Volume Clear“ button to „Off“ (indicator lamp extinguished).
- Adjust R 228 for — 7,2 V on the multimeter (switch-on volume level).
- Switch the unit to „Tuner“, apply a 1 kHz 0 dB (700 mV) signal to the tuner input socket. Connect the multimeter to the output socket of the amplifier. Adjust R 247 (left channel) and R 248 (right channel) so that the output level on the sockets corresponds to the control range of the photo coupler PC 201 and PC 202.

Photo-coupler with colour code:

Red = — 24 dB ± 1 dB
Green = — 21,5 dB ± 1 dB
Blue = — 20 dB ± 1 dB

Note:

When replacing the photo-coupler it is essential that they both have the same colour coding.

- With the „Volume clear“ button depressed, the output level should be — 3 ± 2 dB.
- In the „Stand-by“ condition, the output level must be less than — 35 dB.

Procedura di taratura

1. Trasmettitore ad infrarossi

Collegare un frequenzimetro con in serie una resistenza da 100 kΩ al pin 18 del circuito integrato, premere uno dei tasti e regolare L 1 a 62,5 kHz.

2. Telecomando

Collegare al piedino 3 (TP 1) di IC 207 con in serie una resistenza da 100 kΩ un frequenzimetro e regolare la bobina L 201 a 62,5 kHz.

3. Livello di uscita

Prima della regolazione spegnere e riaccendere l'apparecchio, premere quindi il tasto „Operate“.

- Collegare il multimetro al TP 2.
- Portare il tasto „Volume Clear“ su „Aus“ (l'indicatore si spegne).
- Regolare R 228 in modo tale che il multimetro indichi — 7,2 V (volume di inserimento).
- Portare l'apparecchio su „Tuner“, iniettare un segnale 1 kHz 0 dB (700 mV) nella boccia ingresso tuner e collegare un multimetro alla boccia di uscita verso l'amplificatore. Regolare R 247 (LK) e R 248 (RK) in modo tale che il livello di uscita sulla boccia corrisponda al campo di regolazione delle fotoresistenze PC 201 e PC 202.

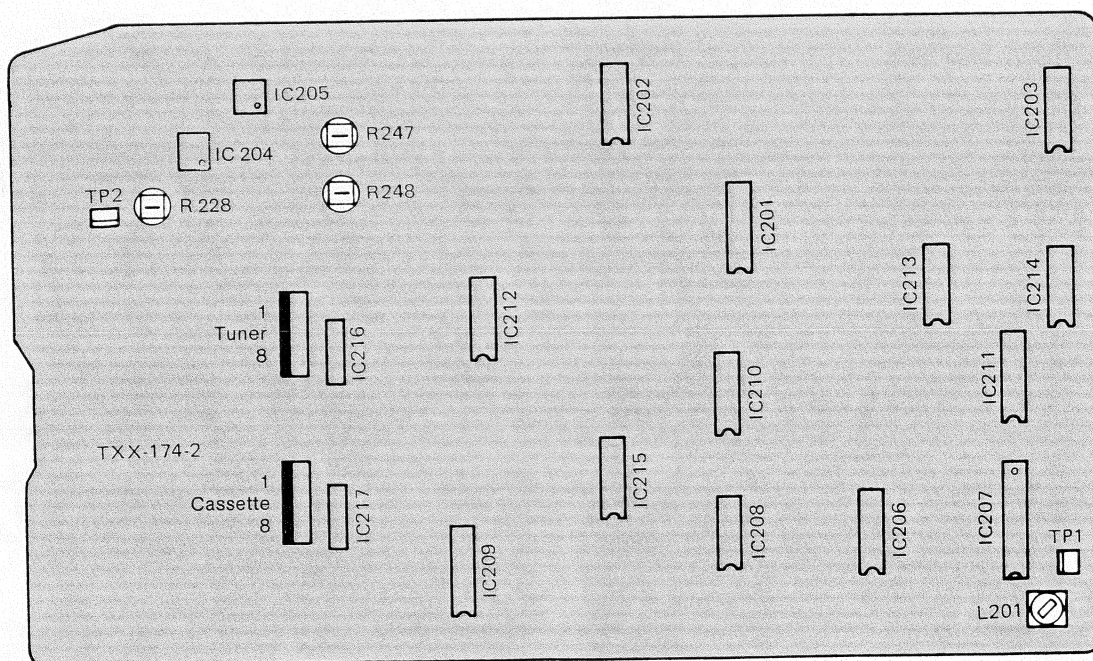
Fotoresistenze con codice colore:

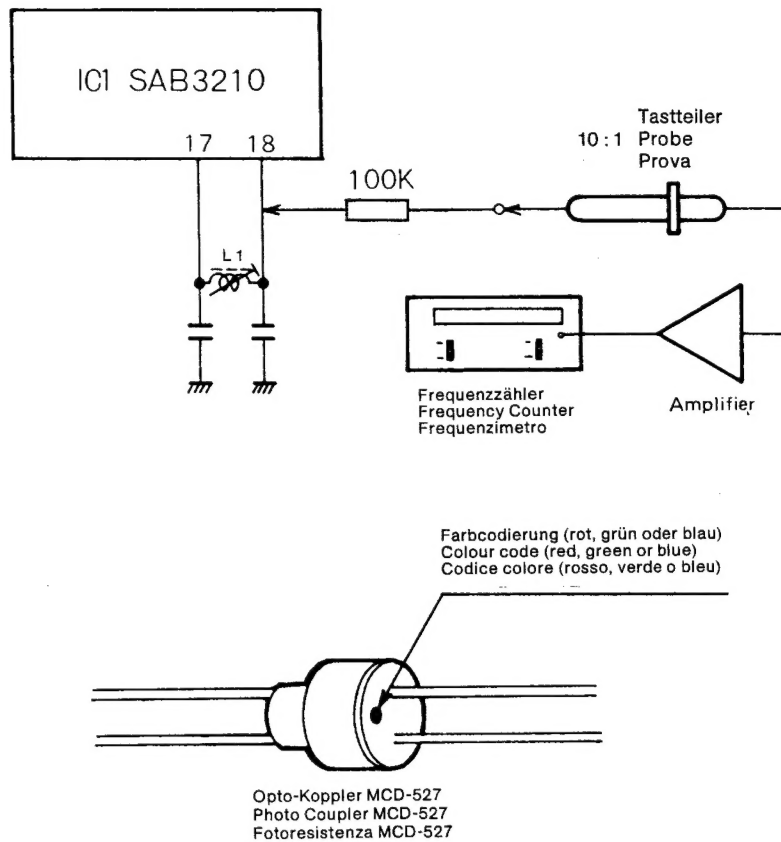
Rosso = — 24 dB ± 1 dB
Verde = — 21,5 dB ± 1 dB
Bleu = — 20 dB ± 1 dB

Attenzione:

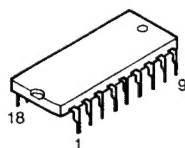
Nella sostituzione delle fotoresistenze deve essere prestata attenzione al rispetto del codice colore.

- Col tasto „Volume Clear“ premuto il livello di uscita deve essere — 3 dB ± 2 dB.
- In posizione „Stand-by“ il livello di uscita deve essere inferiore a — 35 dB.

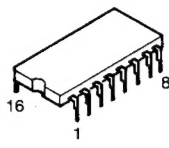




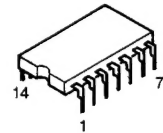
Sockelschaltungen – Socket connections – Circuito di zoccolo



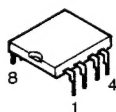
IC 207
SAB 3209
IC 1
SAB 3210



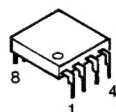
IC 203
• TC4052BP
IC 206
• TC4027BP
IC 208
• TC4015BP
IC 209
• TC4051BP
IC 210, IC 213
• TC4049BP



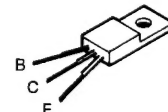
IC 201
• TC4016BP
IC 202
• TC4066BP
IC 211
• TC4081BP
IC 212, IC 214
• TC4011BP
IC 215
• TC4073BP



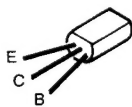
IC 101
• TDA4050



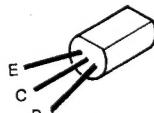
IC 204, 205
• NJM4558D



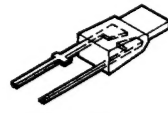
X220
• 2SD325 (E)
X221
• 2SB560 (D, E)



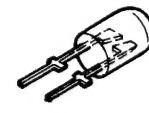
X101, X205, 206
• 2SC1775AV (E, F)
X201, X213, X802
• 2SA872AV (D, E)
X202, 204, 207, 212,
X801
• 2SC458 (C)
X214, 215
• 2SK68 (M, N)



X218, 219
• 2SD438 (E)



D501~505
• LN217RP
• LN317GP



D701
• LN21RPHL



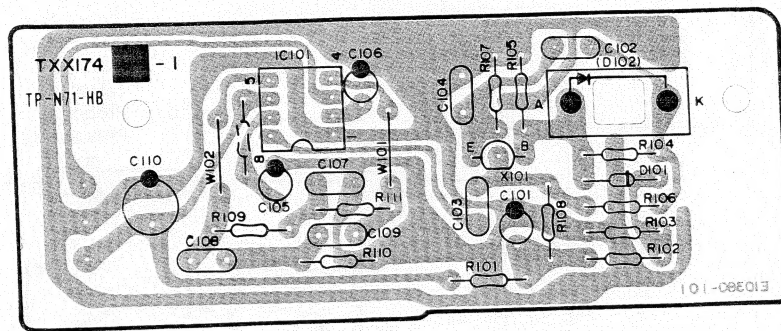
D254
• IS188FM



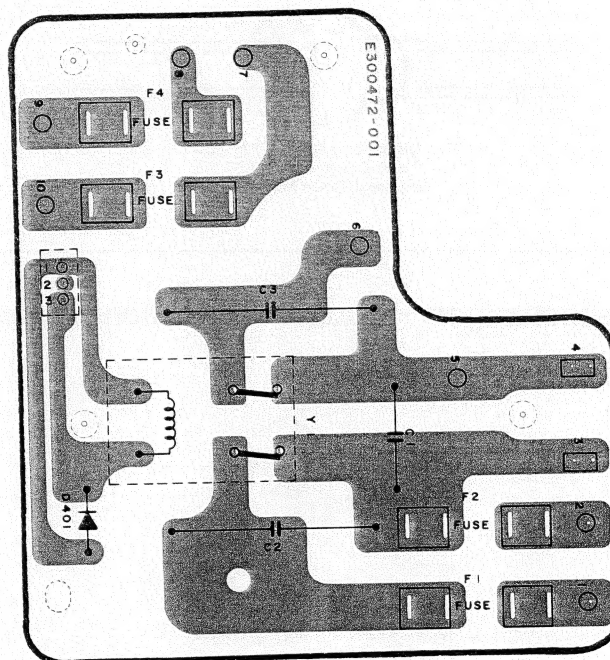
D101, D201~239, 249~253
D255, 261, 401, 801, 805
• IS2076-31
D241, 242
• WZ-090
D243, 244
• WZ-150



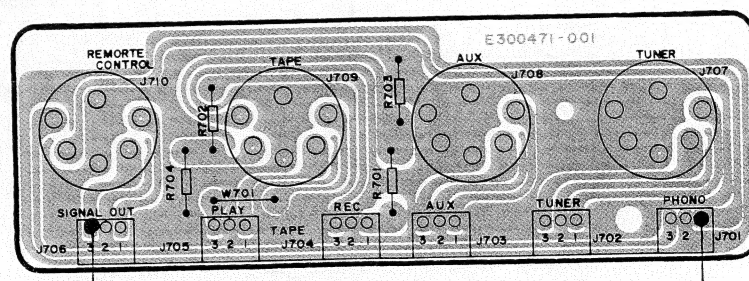
D506, 245~248, 240
• ERB12-02RK



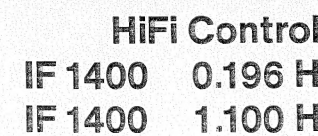
Leiterplatte Infrarotvorverstärker – *P.C.B. Infra-red preamplifier* –
 Piastra del preamplificatore infrarosso
 Bestückungsseite – *Component side* – Elementi di vono



Leiterplatte Netzteil – *P.C.B. Mains power unit* – Piastra di rete
 Lötseite – *Soldered side* – Circuito stampato



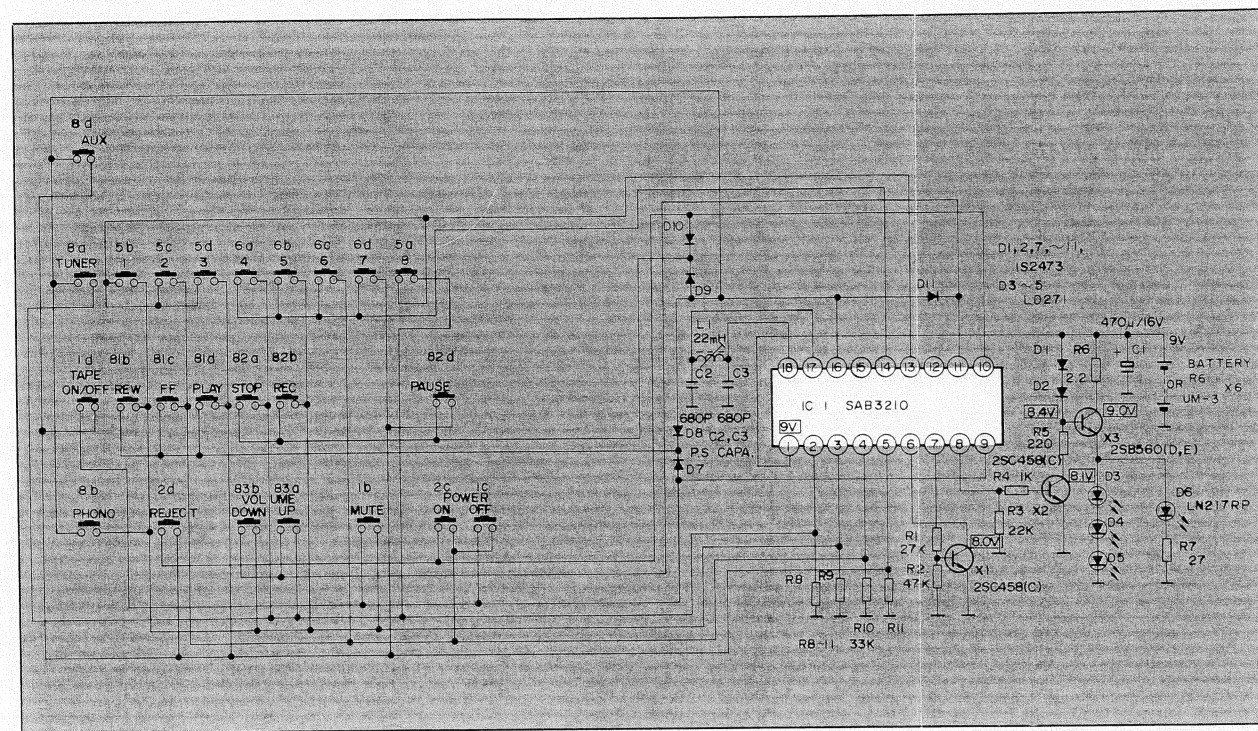
Leiterplatte Buchsen – *P.C.B. Sockets* – Piastra di prese
 Lötseite – *Soldered side* – Circuito stampato



IF 1400 - 0.100 H = 4 Netzsteckdosen
= 4 Power sockets
= 4 Prese di corrente elettrica

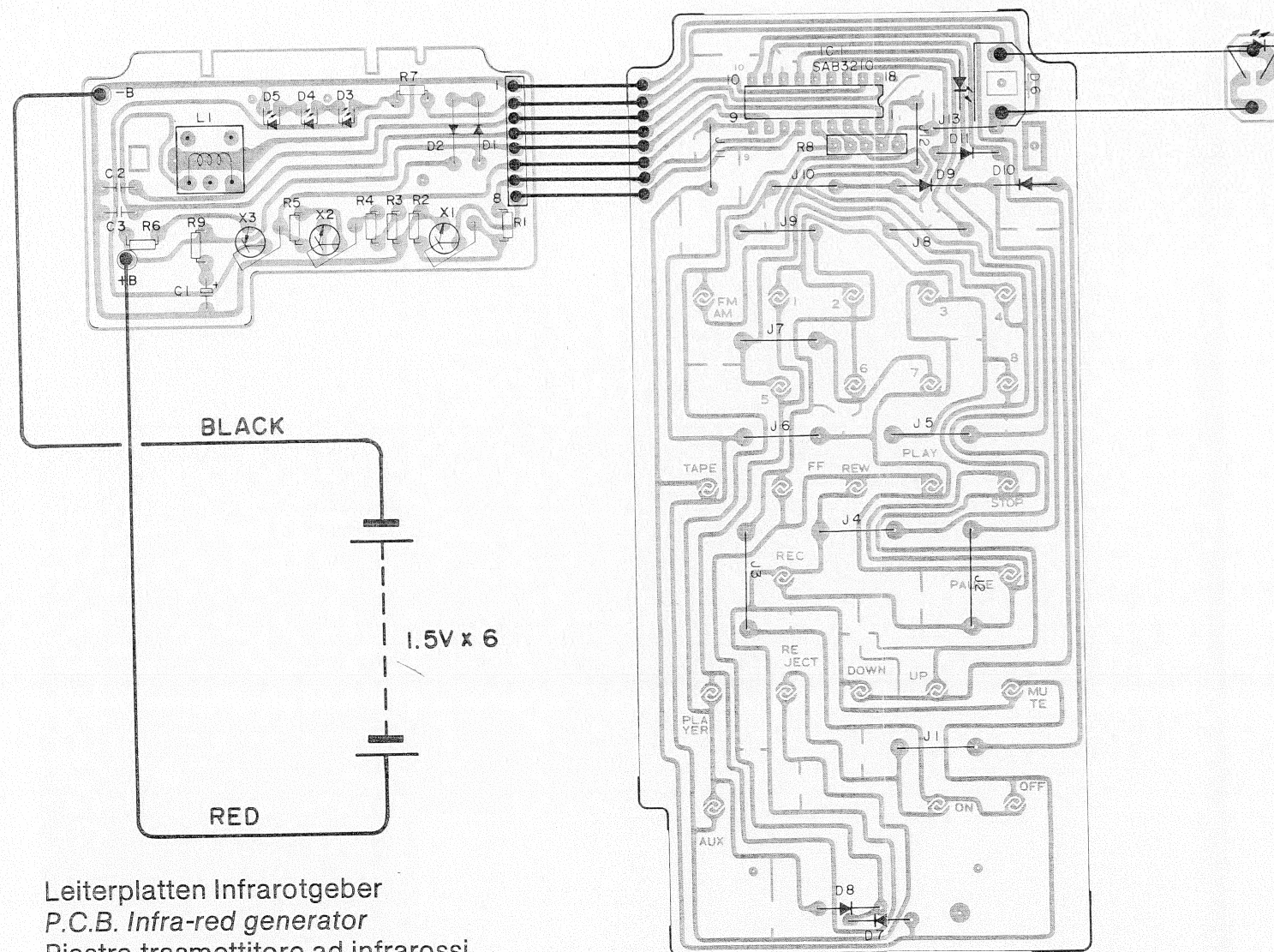
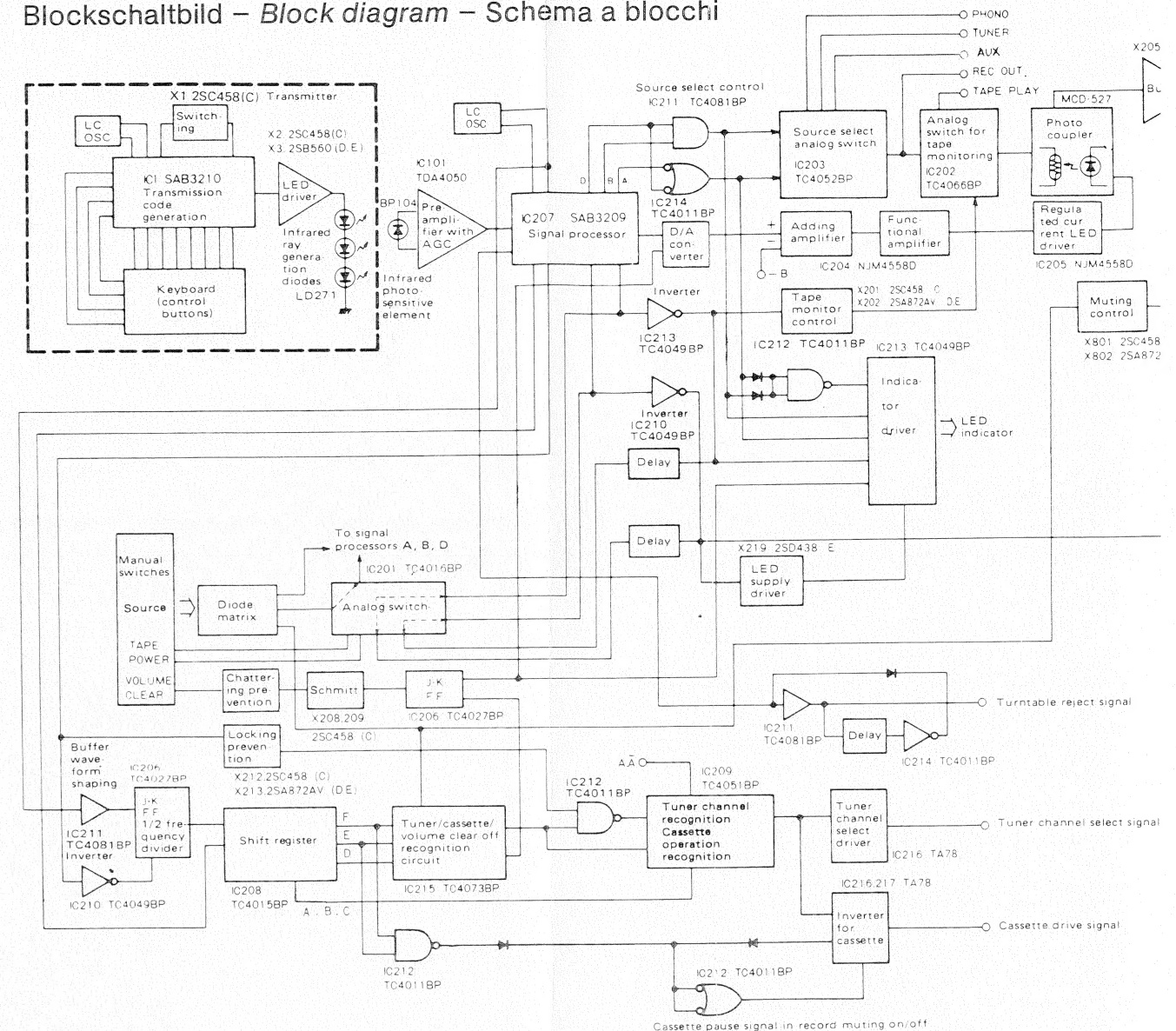
	HiFi Control
IF 1400	0.196 H
IF 1400	1.100 H

Leiterplatte Tippschalter und LED – *P.C.B. Touch switch and LED*
 Piastra interruttori a pressione e LED
 Bestückungsseite – *Component side* – Elementi di vono

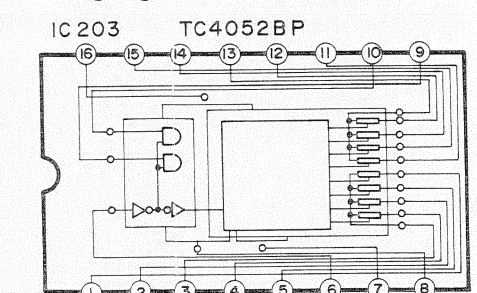
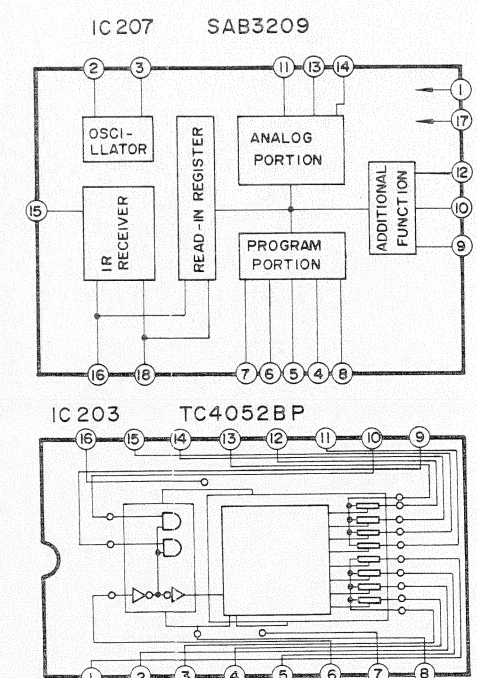
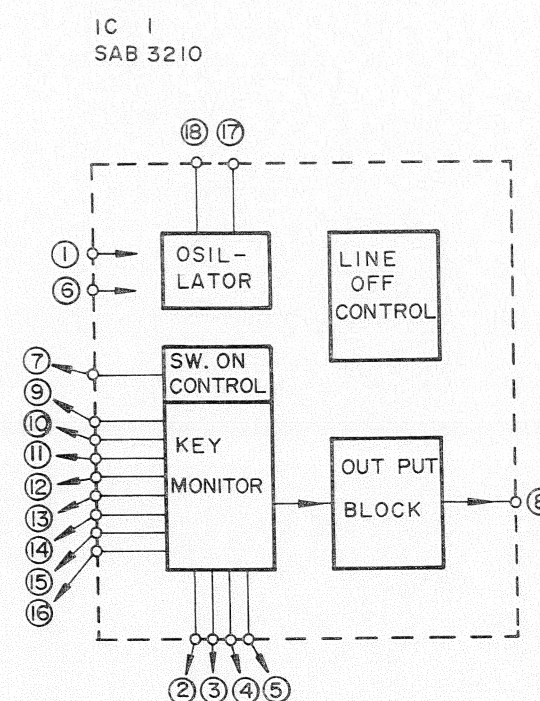


Infrarotgeber – Infra-red generator – Trasmettitore ad infrarossi

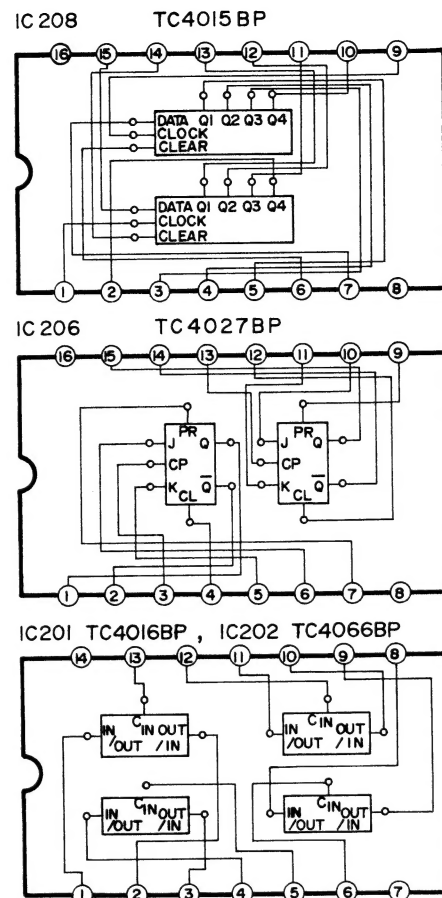
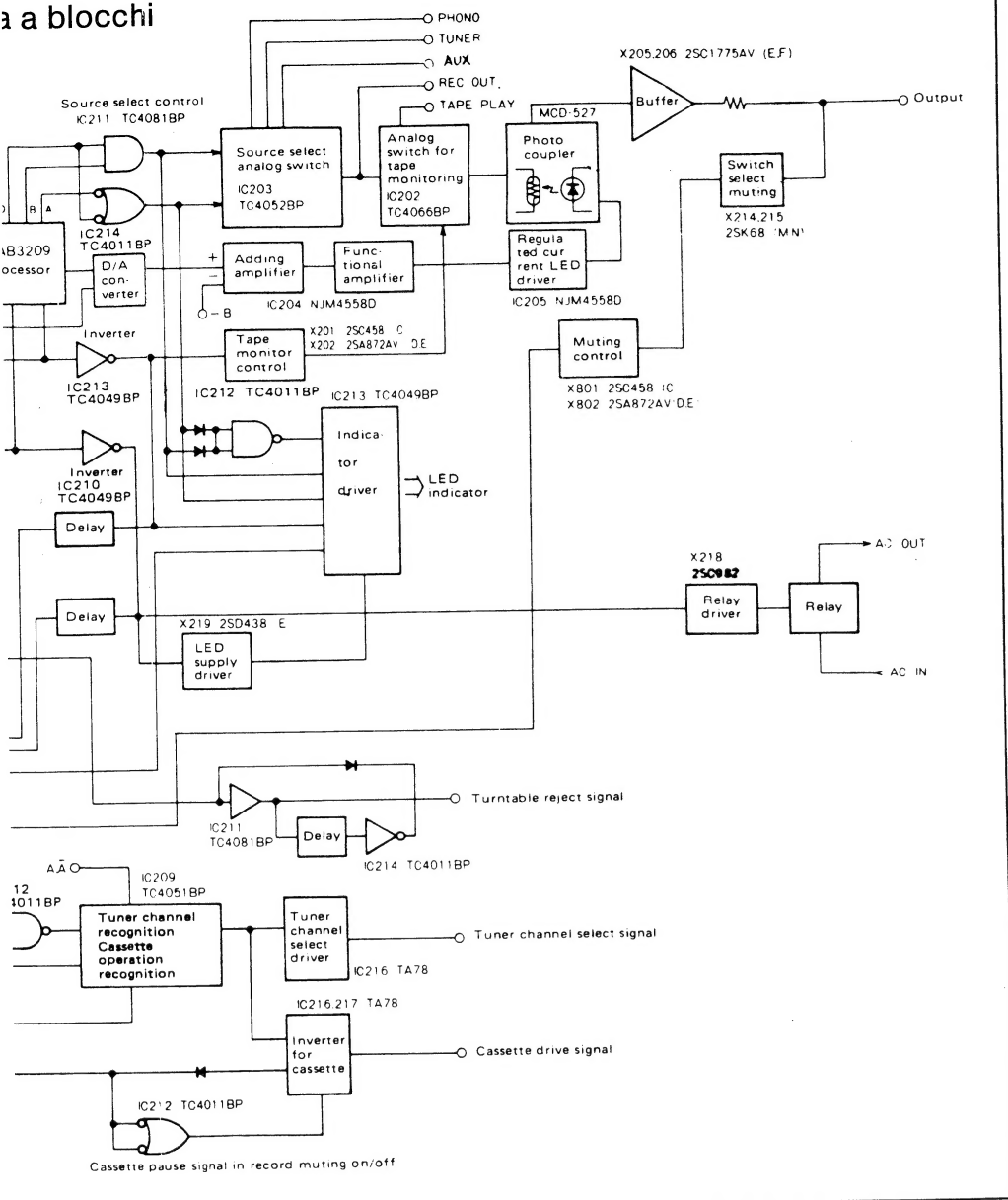
Blockschaltbild – Block diagram – Schema a blocchi



Leiterplatten Infrarotgeber
P.C.B. Infra-red generator
Piastra trasmettitore ad infrarossi



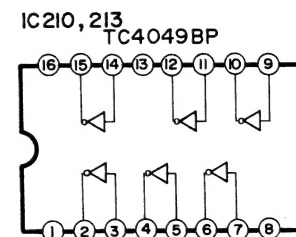
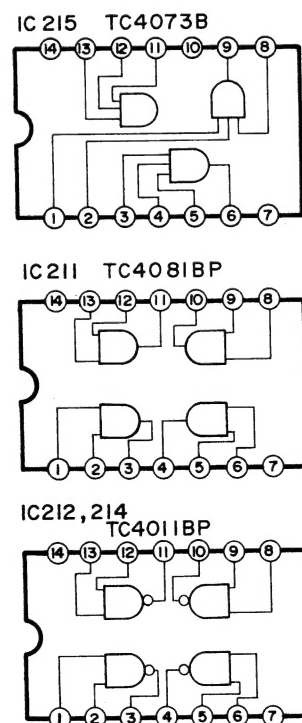
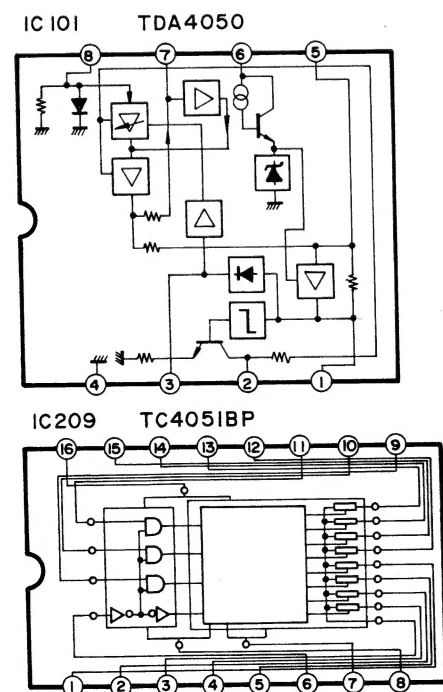
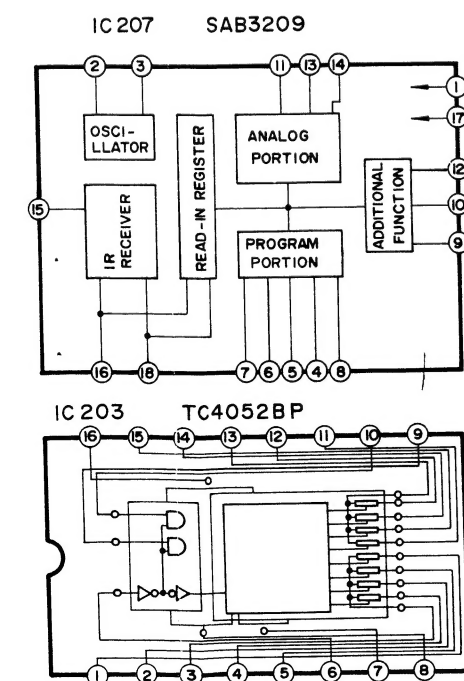
a blocchi



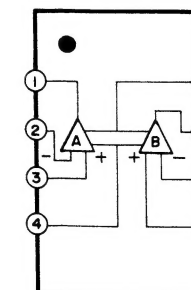
IC-Schaltungen
IC diagrams
Schema circuiti integrati

Wahrheitstabelle – Truth table – Tabella di codifica

Taste Key Tasto	Kommando Command Comando	Command Cord												IC207				IC211 4 PIN	IC214 4 PIN	IC215			IC212		
														F	E	D	C	B	A	4	5	6	7	9	10
1c	Operate OFF	0	0	0	0	1	0	*	*	*	*	0	0	0	1	*	*	0	0	0	1	0			
2c	Operate ON	0	0	0	1	1	0	*	*	*	*	0	0	0	0	*	*	0	0	1	1	0			
1b	MUTE ON	0	0	0	0	0	1	*	*	*	*	0	0	0	0	*	*	0	0	1	1	0			
1d	TAPE MONI ON-OFF	0	0	0	0	1	1	*	*	*	*	0	1 or 0	0	0	*	*	0	0	1	1	0			
2d	PLAYER REJECT	0	0	0	1	1	1	*	*	*	*	1 puls	0	0	0	*	*	0	0	1	1	0			
5b	TUNER Select 1cH	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	1	1	1	1	1	0			
5c	2cH	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	0			
5d	3cH	0	1	0	0	1	1	0	0	1	1	0	0	0	0	0	1	1	1	1	1	0			
6a	4cH	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	0			
6b	5cH	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	1	1	1	1	1	0			
6c	6cH	0	1	0	1	1	0	0	1	1	0	0	0	0	0	0	1	1	1	1	1	0			
6d	7cH	0	1	0	1	1	1	0	1	1	1	1	0	0	0	0	1	1	1	1	1	0			
5a	8cH	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0			
8a	TUNER	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0			
8b	PHONO	0	1	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	1	1	0			
8d	AUX	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	1	0			
81b	REW	1	0	0	0	0	1	*	*	*	*	0	0	0	0	0	1	1	1	1	1	0			
81c	FF	1	0	0	0	1	0	*	*	*	*	0	0	0	0	0	1	1	1	1	1	0			
81d	PLAY	1	0	0	0	1	1	*	*	*	*	0	0	0	0	0	1	1	1	1	1	0			
82a	STOP	1	0	0	1	0	0	*	*	*	*	0	0	0	0	0	1	1	1	1	1	0			
82b	REC	1	0	0	1	0	1	*	*	*	*	0	0	0	0	0	1	1	1	1	1	0			
82d	PAUSE	1	0	0	1	1	1	*	*	*	*	0	0	0	0	0	1	1	1	1	1	0			
83a	VOLUME UP/MUTE OFF	1	0	1	0	0	0	*	*	*	*	0	0	0	0	0	1	1	1	1	1	0			
83b	VOLUME DOWN	1	0	1	0	0	1	*	*	*	*	0	0	0	0	0	1	1	1	1	1	0			
Ending		1	1	1	1	1	0	*	*	*	*	0	0	0	0	0	1	1	1	1	1	0			



IC 205, 206 NJM4558D



IC-Wahrheitstabellen – IC truth table – Tabella di codifica

"1" = High level, "0" = Low level)

TC4011BP (IC212, 214)

Input			Output
A	B	C	
0	0	1	
1	0	1	
0	1	1	
1	1	0	

TC4081BP (IC211)

Input			Output
A	B	C	
0	0	0	
1	0	0	
0	1	0	
1	1	1	

IC211, 212, 214 PIN

A	B	C
①	②	③
⑤	⑥	④
⑧	⑨	⑩
⑫	⑬	⑪

TC4016BP (IC201)
TC4066BP (IC202)

Control terminal	Input/output	Output/input
⑬	①	②
⑤	④	③
⑥	⑧	⑥
⑫	⑪	⑩

Input/output becomes ON when the level at control terminal changes to high ("1").

TC4073BP (IC215)

Input			Output
①	②	⑧	⑨
③	④	⑤	⑥
⑪	⑫	⑬	⑩
1	1	1	1
If any one of 3 inputs is "0".			0

TC4049BP (IC210, 213) (Inverter)

Input	Output
③	②
⑤	④
⑦	⑥
⑨	⑩
⑪	⑫
⑬	⑭

TC4052BP (IC203)

Control input			Output	
INHIBIT	B	A	Common X	Common Y
⑥	⑨	⑩	⑬	③
0	0	0	0 ⑫	①
0	0	1	1 ⑭	⑤
0	1	0	2 ⑮	②
0	1	1	3 ⑪	④
1	*	*	NONE	NONE

Hinweis: Zahlen in Kreisen sind Pin-Bezeichnungen

Note: Numbers in circles are pin numbers

Nota: I numeri negli schemi sono i numeri dei pin

TC4015BP (IC208)

Input			Output			
^CLOCK	DATA	CLEAR	Q ₁	Q ₂	Q ₃	Q ₄
⑨/①	⑦/⑮	⑥/⑭	⑤/⑬	④/⑫	③/⑪	⑩/②
0	0	0	0	Q ₁	Q ₂	Q ₃
1	0	0	1	Q ₁	Q ₂	Q ₃
*	*	0	Not change			
*	*	1	0	0	0	0

△ Level change * Irrelevant

TC4027BP (IC206)

Input					Output	
CL	PR	J	K	CP ^	Q _{n+1}	Q̄ _{n+1}
④/⑫	⑦/⑨	⑥/⑩	⑤/⑪	③/⑬	①/⑮	②/⑭
0	1	*	*	*	1	0
1	0	*	*	*	0	1
1	1	*	*	*	0	1
0	0	0	0	0	Q _n	Q̄ _n
0	0	0	1	0	0	1
0	0	1	0	0	1	0
0	0	1	1	0	Q _n	Q̄ _n
0	0	*	*	0	Q _n	Q̄ _n

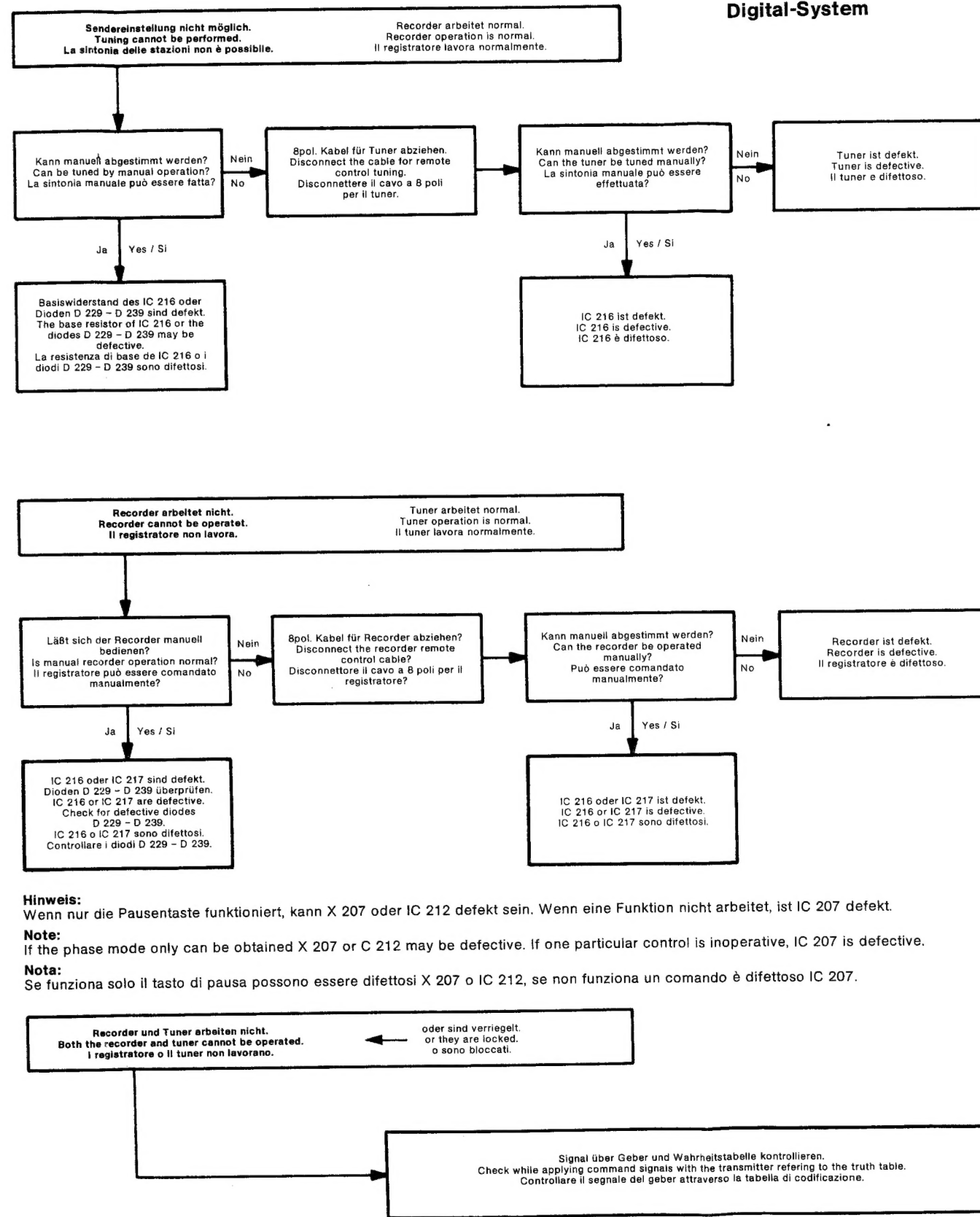
△ Not change △ Change

TC4051BP (IC209)

Control input				"ON" channel
INHIBIT	C	B	A	Common ③
⑥	⑨	⑩	⑪	
0	0	0	0	0 (8) ← ⑬
0	0	0	1	1 ← ⑭
0	0	1	0	2 ← ⑮
0	0	1	1	3 ← ⑫
0	1	0	0	4 ← ①
0	1	0	1	5 ← ⑤
0	1	1	0	6 ← ②
0	1	1	1	7 ← ④
1	*	*	*	NONE

Reparaturhilfen – Service aids – Ausili alla riparazione

Digital-System



Hinweis:
Zur Reparatur die Wahrheitstabelle verwenden. Plattenspieler-Reject-Funktion kann nicht über Fernbedienung betätigt werden, wenn die gemeinsame Masse zwischen Verstärker Fernbedienung und Plattenspieler nicht vorhanden ist.

Note:
For repairing, refer to the truth table. The turntable reject operation cannot be performed with the Remote Transmitter if common grounding between the turntable, the amplifier and the central controller is not properly made.

Nota:
Per la riparazione utilizzare la tabella delle funzioni. La funzione Reject del giradischi non può essere telecomandata se non è realizzata la massa generale tra amplificatore telecomando e giradischi.

Keine Laut
No sound is o
Manca l'

Ist der Tape-Monitor-Schalt
Pin des IC 20
Is the tape monitor switch set
pin IC 20:
L'interruttore tape monito
di IC 203 e pr

Leuchtet
Does the
L'indica

Ist das Sig
Is the sign
Il segnale

Ist das Ausgangssignal an F
und 10 (LK) sowie Pin 2 und 1
von IC 202 vorhanden?
Is the signal available at ou
pins 9 and 10 (LK) and pin
and 3 (RK) of IC 202?
Il segnale di uscita ai pin 9 e 1
così come ai pin 2 e 3 (RK) di
è presente?

X 205 und X 206 oder die F
X 214 und X 215 haben Sch
X 205 und X 206 or the FE
X 214 and X 215 are short cir
X 205 e X 206 o i FET
X 214 e X 215 sono in cor

Laut
Il

Ist die Volume-Clear-Taste au
Is the Volume Clear butt
Durante la manovra di v

Ändert sich die Emitterspann
X 203 und X 204 von 1,3 –
Is the emitter voltage of X 20
X 204 changed from appr
1,3 – 9 V?
La tensione di emitter di
X 203 e X 204 varia fra 1,3 V

Lässt sich die Spannung m
Reglern R 247 und R 248
einstellen, sind die Opto-K
PC 201 und PC 202 def
Are the semifixed resist
R 247 and R 248 open circ
photo couplers PC 201 and
are defective.
Se la tensione non si lascia
con R 247 e R 248 le fotore
PC 201 e PC 202 sono dife

Hinweis:
Die gleiche Prüfung ist c
der Funktionsverstärke

Note:
The same checking sho
functional amplifier of I

Avvertenza:
La stessa prova è da eff
al pin 11 di IC 207 e l'e

Ital-System

Tuner ist defekt.
Tuner is defective.
Il tuner è difettoso.

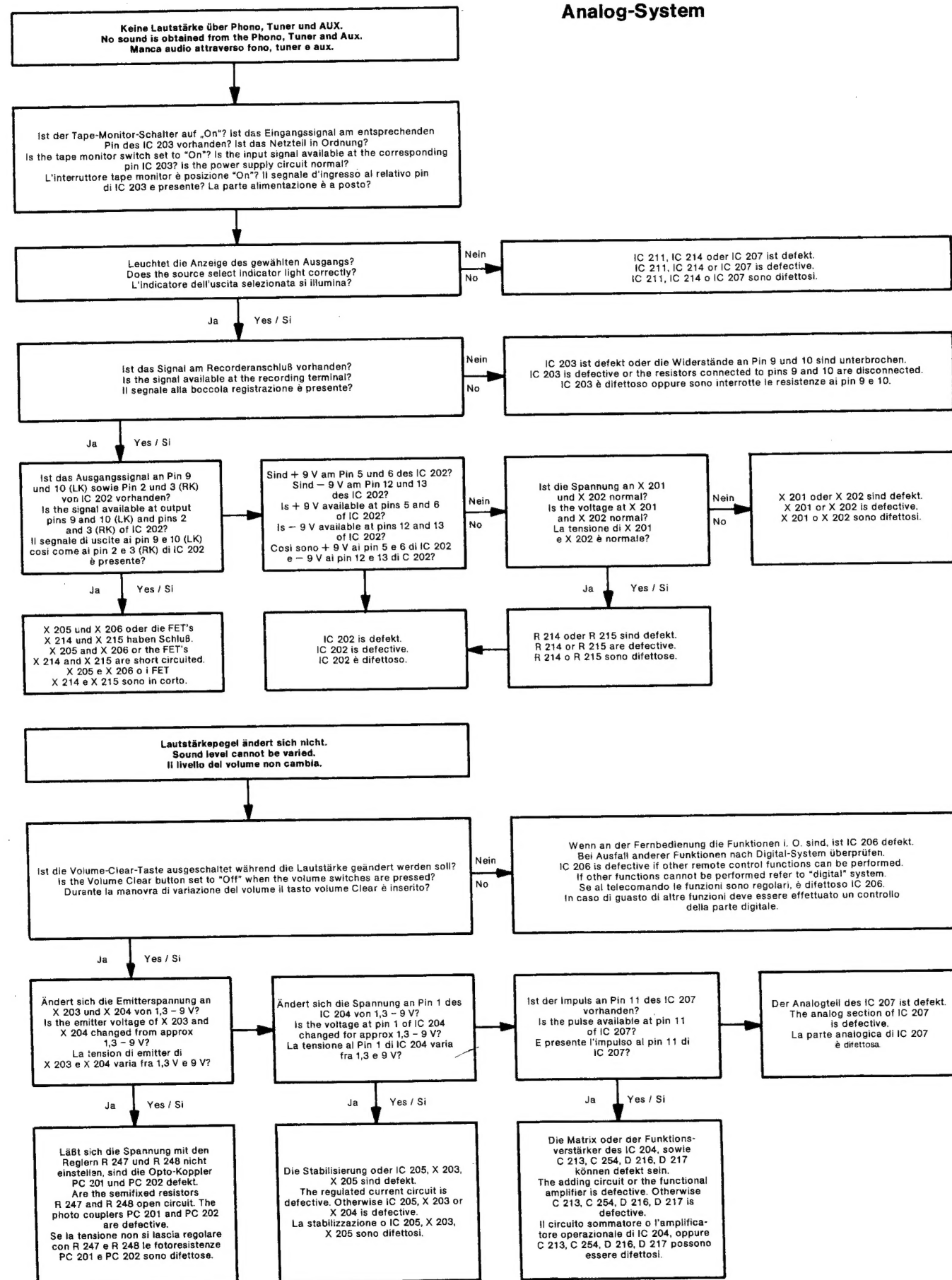
Recorder ist defekt.
Recorder is defective.
Il registratore è difettoso.

Ist IC 207 defekt.
IC 207 is defective.
Difettoso IC 207.

kontrollieren.
referring to the truth table.
a di codificazione.

stätigt werden, wenn die gemein-
er if common grounding between
a se non è realizzata la massa ge-

Analog-System

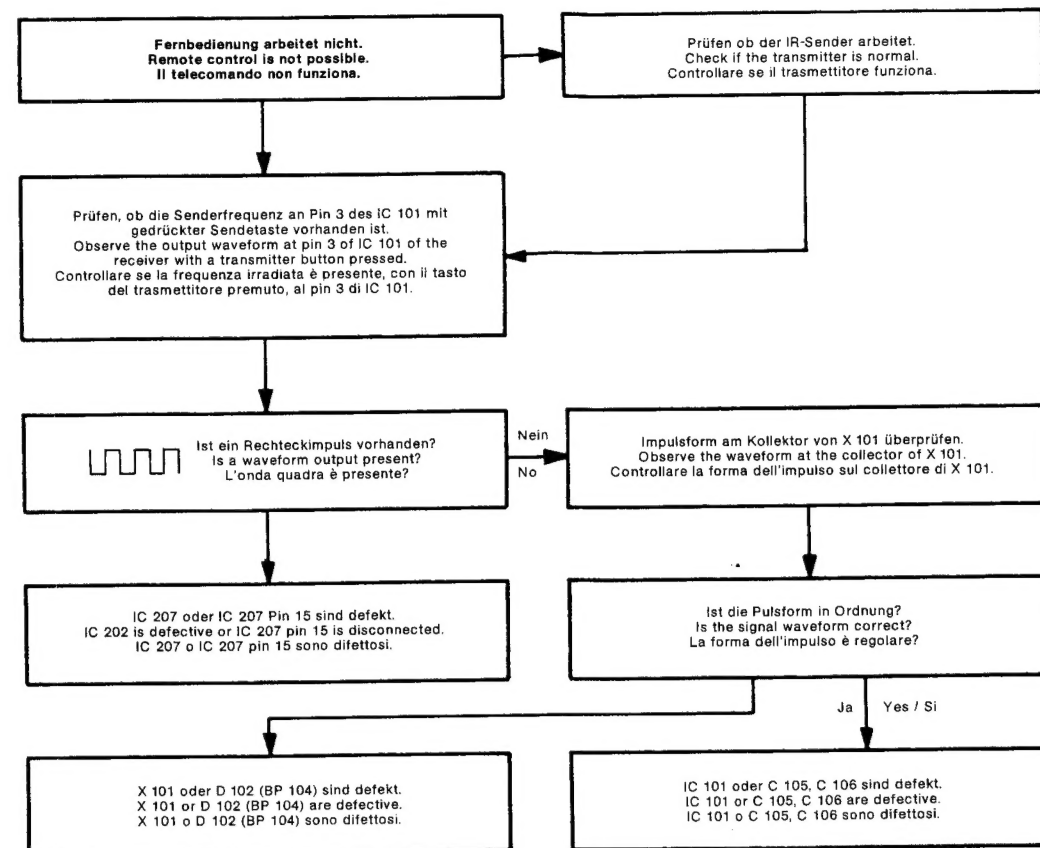


Hinweis:
Die gleiche Prüfung ist durchzuführen, wenn sich der Tonpegel zu schnell oder zu langsam ändert. Dabei ist die Impulsbreite an Pin 11 des IC 207 und der Funktionsverstärker des IC 204 zu prüfen.

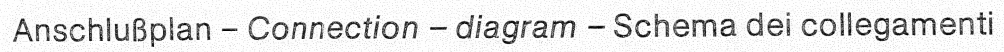
Note:
The same checking should be performed if the sound level alters too fast or too slow. When doing this, check the pulse width at pin 11 of IC 207 and the functional amplifier of IC 204.

Avvertenza:
La stessa prova è da effettuarsi se il livello dell'audio varia troppo lentamente o troppo velocemente. Inoltre sono da controllare la durata dell'impulso al pin 11 di IC 207 e l'amplificatore operazionale di IC 204.

Fernbedienung / Remote control / Telecomando

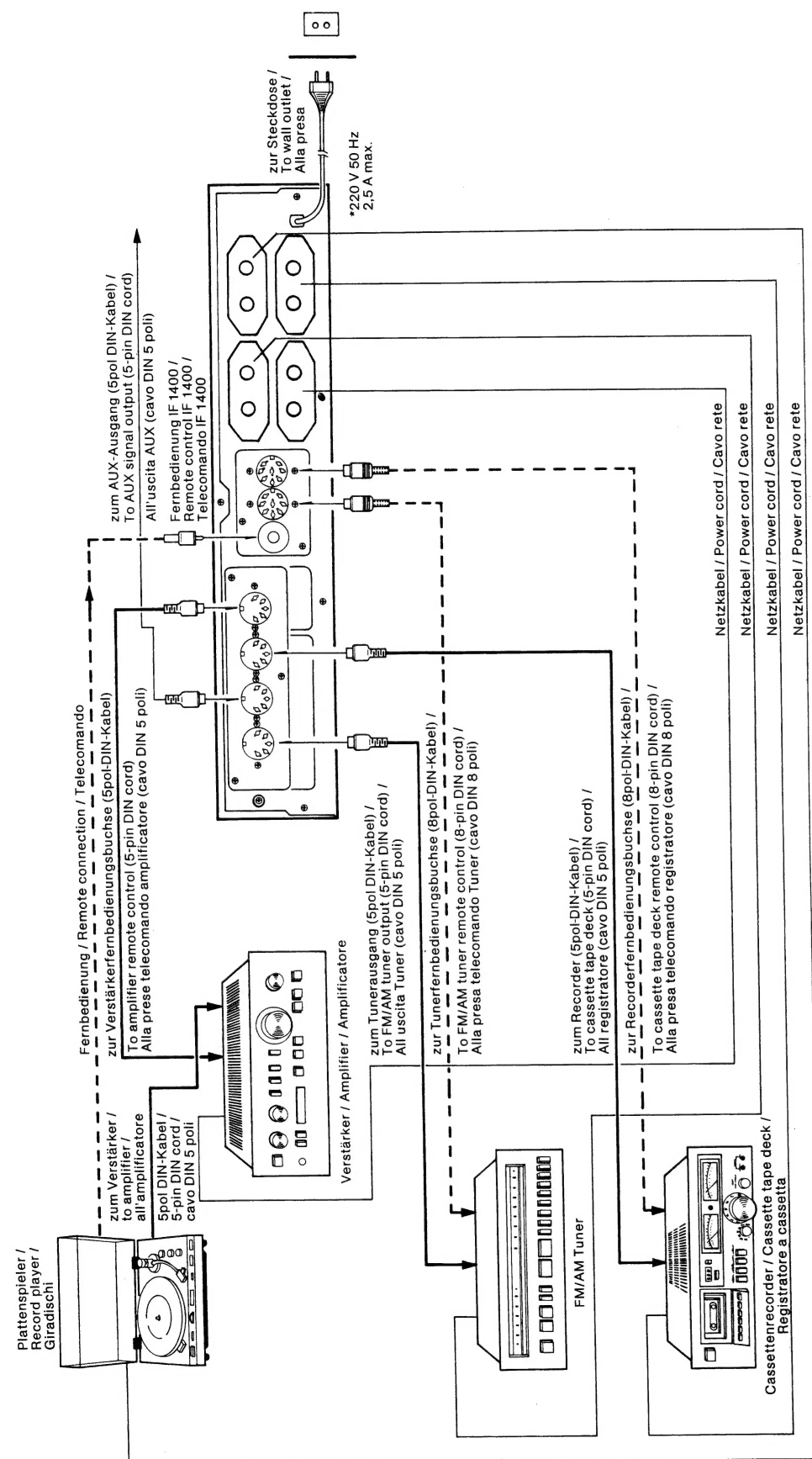


Nachtrag / Notes / Appunti



Anschlußschema für die HiFi-Komponenten
Connection diagram for HiFi units
Schema di collegamento dei componenti HiFi

BROWN
RED
ORANGE
YELLOW
GREEN
BLUE
VIOLET
GRAY

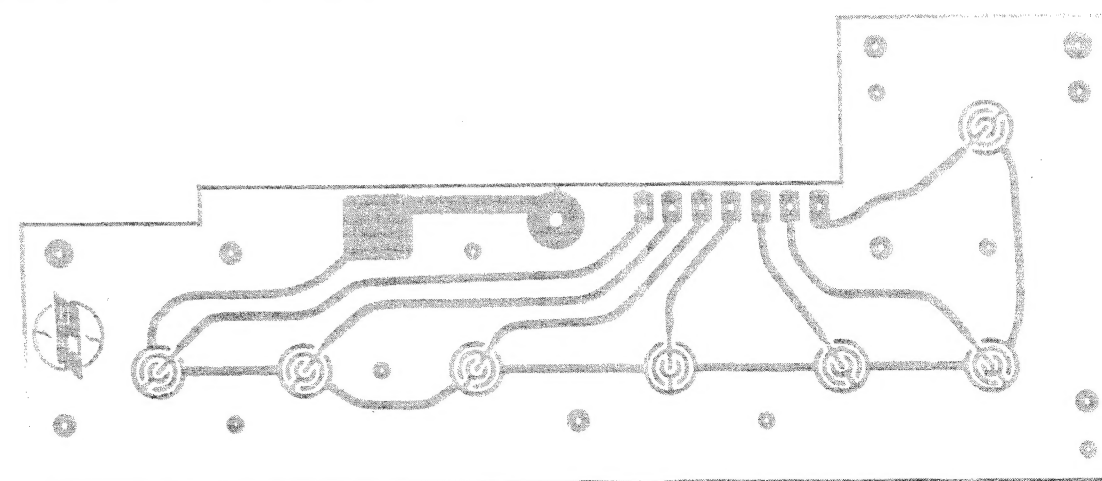
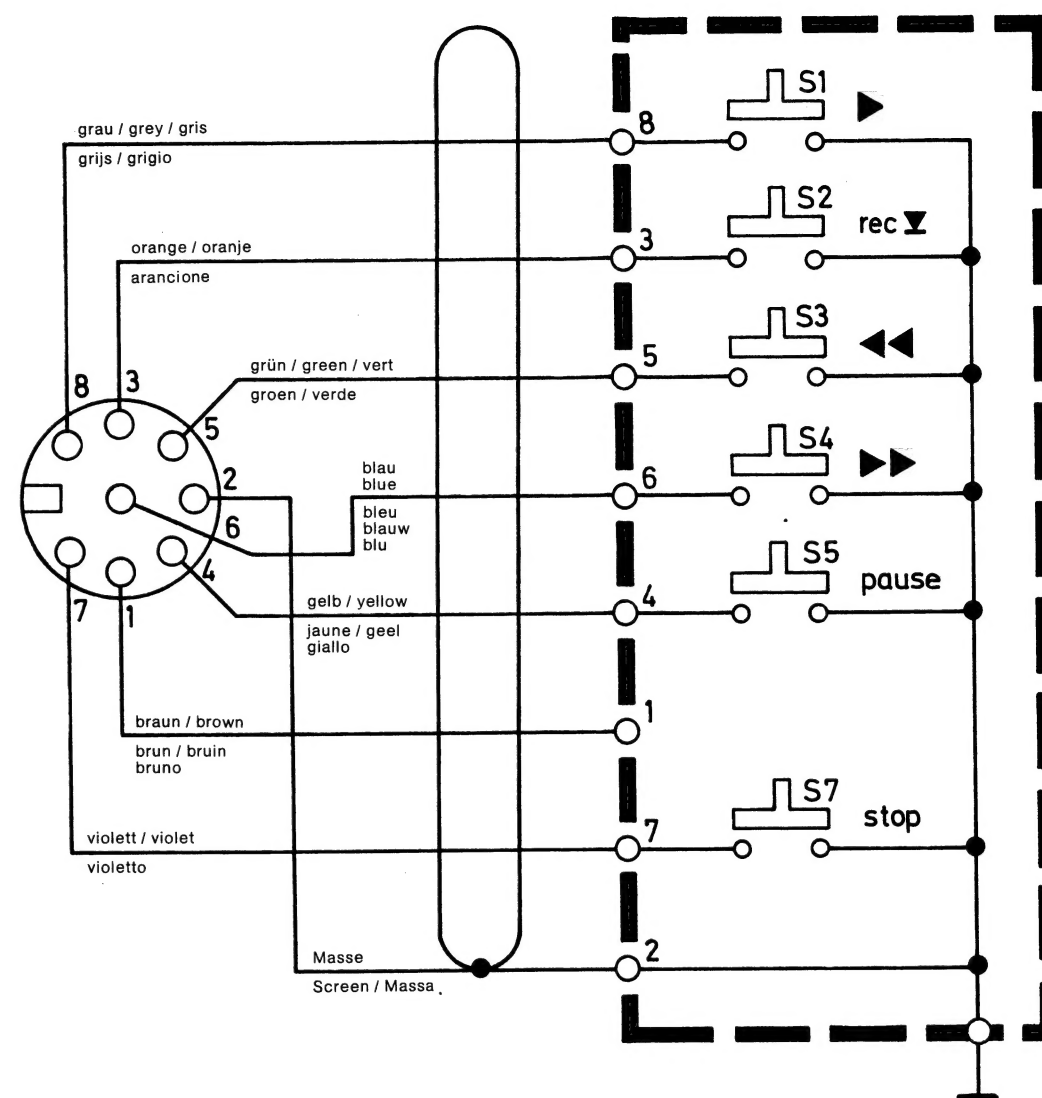


*IF 1400 - 0.196 H = 1 Netzbuchse
1 Power socket
1 Presa di corrente elettrica

IF 1400 - 0.100 H = 4 Netzbuchsen
4 Power sockets
4 Prese di corrente elettrica

NORDMENDE

Cassette Control CF-1 0.179 H



Leiterplatte Fernbedienung - P.C.B. Remote control - Piastra telecomando